COLORADO
Colorado Water Conservation Board
Department of Natural Resources

1313 Sherman Street
Denver, CO 80203

P (303) 866-3441
F (303) 866-4474

John Hickenlooper, Governor

Robert Randall, DNR Executive Director

Rebecca Mitchell, CWCB Director

TO: Colorado Water Conservation Board Members

FROM: Kevin Reidy, Water Supply Planning Section

DATE: March 21-22, 2018 Board Meeting

AGENDA ITEM: 31a-g. Water Plan Grants – Water Conservation and Land Use Initial Consideration

---

This item is for consideration only. No Action is required at this time

Introduction

There are 7 grants that have been recommended for review totaling $743,254 with $2,246 remaining in the fund. Initially, this round was oversubscribed by $336,000. One applicant pulled out wishing to reapply at a future date and another applicant was asked to move their application to the next available round. Including these two applications, there are 3 applications that are "intent to apply" status for the next available grant cycle.

Applicant	Project Name	Request	% of Project	Staff Support
a. Babbitt Center for Land & Water Policy, Getches-Wilkinson Center for Natural Resources	Guidance to Covered Entities for Land Use Planning Components of Water Efficiency Plans	35,000	41%	35,000
b. Green Mountain Water & Sanitation District	Customer Engagement & Analytics Tool	72,000	50%	72,000
c. The Meadows Neighborhood Company	Targeted, Integrated Irrigation Efficiency Improvements and Mgmt and Turf Conversion for Reduced Water Use	66,700	41%	66,700
d. Year One, Inc. dba Mile High Youth Corps	Energy and Water Conservation Program	99,964	80.5%	99,964
e. Sonoran Institute	Colorado Growing Water Smart	398,000	44%	398,000
f. Western Resource Advocates (WRA)	Best Practices for Water Meter Retrofit Projects Financed by State Performance Contracts in CO	52,500	34%	52,500
g. Western Resource Advocates (WRA)	Conservation Oriented Tap Fees: Guide and Workshop	19,900	44%	19,000

Staff Review and Comments

a. Babbitt Center for Land & Water Policy, Getches Wilkinson Center for Natural Resources: Guidance to Covered Entities for Land Use Planning Components of Water Efficiency Plans

Senate Bill 2015-008 added to the requirements for Water Efficiency Plans (WEPs) that must be filed by Covered Entities. WEPs include an evaluation of water saving measures and programs to be used by the Covered Entity and an estimate of the amount of water that has been, and is expected to be, saved through conservation. SB 8 requires in addition an evaluation of best management practices for water demand management that may be implemented through land use planning efforts. The CWCB has provided detailed guidance to Covered Entities for developing WEPs; however, this guidance has not been updated to include the land use planning components mandated by SB 8. To aid the CWCB in the development of such materials, this project will provide draft addenda to the Guidance Document and the sample WEP addressing water and land use planning. These addenda will be submitted to the CWCB for consideration and potential adoption.

Staff supports for approval in May.

b. Green Mountain Water and Sanitation District: Customer Engagement and Analytics Tool

GMWSD plans to accumulate accurate data, analyze trends between demand and conservation measures, evaluate the effectiveness of individual conservation programs and share the results with the public. To accomplish this, GMWSD plans to work with Dropcountr, a customer engagement platform, that can improve customer engagement regarding water issues and help GMWSD towards its water conservation goals as outlined in the Denver Water 2017 Water Efficiency Plan.

Staff supports for approval in May.

c.The Meadows Neighborhoo Company: Targeted, Integrated Irrigation Efficiency Improvements and Mgmt and Turf Conversion for Reduced Water Use

The intent of the project is to significantly reduce the annual water consumption of the MNC, one of the largest water users in the Town of Castle Rock. This efficiency and conservation project directly impacts the Town of Castle Rocks' domestic, potable water supply and targets five larger, high use water meters and targeted areas of high water use landscaping. The estimated demand reductions will be accomplished through an integration of essential irrigation and landscape methods: First, evaluating and documenting the system efficiency issues, implementing the necessary efficiency repairs and upgrading to higher efficiency products as needed; second, converting turfgrass to lower water use plant materials in targeted areas and finally optimizing the ongoing water use with improved system management and oversight.

Staff supports for approval in May.

d. Year One Inc. dba Mile High Youth Corps: Energy and Water Conservation Program

Mile High Youth Corps' (MHYC) Water & Energy Conservation program engages young adults for a year of service providing water and energy efficiency measures to low-income households and non-profit facilities. This grant will be used to expand and enhance MHYC services and outreach. Specifically,

funds will pay for high efficiency fixtures, such as 1.5 GPM showerheads, 1.5 GPM sink aerators, 1.0 GPM bathroom aerators, a Ultra High Efficiency Toilet (.8 gallons/flush), when existing toilet is 1.6 GPF or greater, OR leaking, OR older than 1992.Additionally, the grant will provide for labor and marketing pieces to reach 3,000 residents and providing assessments of 350 homes, of which, 90% will qualify for a UHET installation.

Staff supports for approval in May.

e. Sonoran Institute: Colorado Growing Water Smart

Colorado Growing Water Smart (CGWS) builds the capacity of local jurisdictions to plan and implement long-term strategies for the integration of land use and water planning. In partnership with CWCB, CO Department of Local Affairs, Northwest Colorado Council of Governments, Western Resource Advocates, and Keystone Policy Center, the Sonoran Institute and Lincoln Institute of Land Policy provide training, technical assistance, and other resources to communities that allow them to better understand current and future water supply and demand, the range of land use planning tools to align growth and development with forecasted water supplies, and engage and educate their community to build support for needed plans and policies. By 2019, the project will achieve the following objectives:

1. 24 communities representing 1,200,000 Coloradans will have participated in CGWS and will be actively incorporating water-saving actions into land-use planning.
2. At least 12 of these communities will have formally adopted new or revised land-use plans or policies incorporating water-saving actions. Some of these plans or policies will serve as models for other communities to adopt.
3. At least six of these communities will have adopted and begun tracking specific land-use performance metrics to measure their progress in water conservation, efficiency, and reuse.
4. At least 400 elected officials, planners, water providers will be engaged through our training, assistance, education and, outreach activities
5. State officials will have a proposed set of performance metrics to measure Colorado's overall progress in meeting Colorado's Water Plan 2025 goal of "75 percent of Coloradans will live in communities that have incorporated water-saving actions into land-use planning."

Staff supports for approval in May.

f. Western Resource Advocates: Best Practices for Water Meter Retrofit Projects Financed by State Performance Contracts in CO

The goal of this project is to develop Best Practices for the retrofit of water meters performed through the State of Colorado's Performance Contracting Program, in order to increase investor confidence and accelerate market penetration of smart water meters in Colorado.
Objectives:

- Learn from other states and water providers about what has and has not worked in using performance contracts to replace water meters.
- Develop Best Practices that fulfill the needs of Colorado's State Performance Contracting Program and its new responsibilities under SB 17-252.
- Produce Best Practices that are adopted by Colorado Energy Office and have broad buy-in and support from the performance contracting sector.
- Identify and promote a pilot project to utilize the new Best Practices

Staff supports for approval in May.

h. Western Resource Advocates: Conservation Oriented Tap Fees: Guide and Workshop

The requested CWP Grant funds will support the development of a guide and one-day workshop on water-conservation oriented tap fee design methodologies. Both of these work products will serve as technical resources to help utilities better integrate water conservation objectives into their tap fees. This proposed project – which will result in a "Guide to Designing Conservation-Oriented Tap Fees" and a supporting one-day workshop - will provide a needed technical resource to help more utilities adopt conservation-oriented tap fees. Utilities' need for this resource was made resoundingly clear through the three Tap Fee Workshops that were conducted by WRA across Colorado, with the support of a CWCB Water Efficiency Grant Fund grant in 2016. Moreover, this proposed project is very well aligned with several goals outlined in Colorado's Water Plan, and is also among the identified low and no-regrets strategies.

Staff supports for approval in May.

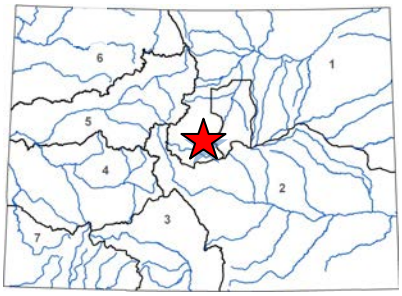
COLORADO
Colorado Water Conservation Board
Department of Natural Resources

Guidance to Covered Entities for Land Use Planning Components of Water Efficiency Plans

Babbitt Center for Land and Water Policy/
Getches-Wilkinson Center for Natural Resources, Energy and Environment

March 2018 Board Meeting
Initial Consideration

Water Plan Grant Application



LOCATION
County/Counties:
Drainage Basin: Statewide

DETAILS	
Total Project Cost:	$84,900
Water Plan Grant Request:	$35,000
Other CWCB Funding:	$
Other Funding Amount:	$30,000
Applicant Match:	$19,990
Project Type(s): Study, Engagement	
Project Category(Categories): Conservation & Land Use	
Measurable Result: Impacting 4-5 million Coloradans by incorporating water-saving actions into land use planning	

Senate Bill 2015-008 added to the requirements for Water Efficiency Plans (WEPs) that must be filed by Covered Entities. WEPs include an evaluation of water saving measures and programs to be used by the Covered Entity and an estimate of the amount of water that has been, and is expected to be, saved through conservation. SB 8 requires in addition an evaluation of best management practices for water demand management that may be implemented through land use planning efforts.

The CWCB has provided detailed guidance to Covered Entities for developing WEPs; however, this guidance has not been updated to include the land use planning components mandated by SB 8. To aid the CWCB in the development of such materials, this project will provide draft addenda to the Guidance Document and the sample WEP addressing water and land use planning. These addenda will be submitted to the CWCB for consideration and potential adoption.

To ensure that the draft addenda appropriately balance the intensely local nature of land use decisions with the regional impacts of water supplies and use, input will be obtained from a broad-based advisory group and through workshops convened to obtain feedback from interested stakeholders, local government land use authorities, and Covered Entities.

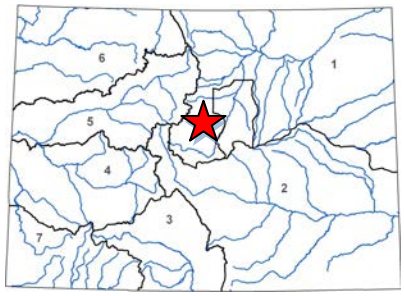
COLORADO
Colorado Water Conservation Board
Department of Natural Resources

Green Mountain Water and Sanitation District
Customer Engagement & Analytics Tool

Green Mountain Water and Sanitation District

March 2018 Board Meeting
Initial Consideration

Water Plan Grant Application



LOCATION
County/Counties:
Drainage Basin: Metro

DETAILS	
Total Project Cost:	$144,000
Water Plan Grant Request:	$72,000
Other CWCB Funding:	$
Other Funding Amount:	$
Applicant Match:	$72,000
Project Type(s): Study, Engagement	
Project Category(Categories): Conservation & Land Use	
Measurable Result: 38 afy in yr. 1, increasing to 75afy in yr. 4; 30,000 Coloradans impacted by engagement activity	

Green Mountain Water and Sanitation District's (GMWSD) water conservation planning activities are covered under Denver Water's Water Efficiency Plan. While total residential water use has declined within GMWSD's service area over the past decade, it is difficult to quantitatively attribute water savings to an individual program. GMWSD plans to accumulate accurate data, analyze trends between demand and conservation measures, evaluate the effectiveness of individual conservation programs and share the results with the public. To accomplish this, GMWSD plans to work with Dropcountr, a customer engagement platform, that can improve customer engagement regarding water issues and help GMWSD towards its water conservation goals as outlined in the Denver Water 2017 Water Efficiency Plan.

The project will achieve the following objectives:

- Implement demand-side conservation measures
- Promote water conservation by making water consumption data easily accessible to its customers via digital channels (native mobile app and web portal)
- Increase customer engagement in areas of water use, water rate tiers, leak detection, and rebates and tips to improve conservation. Making water use data accessible to the customers and notifying them about behind the meter leaks or unusually high water use promotes water efficiency and reduces costs for the customer.
- Track the effectiveness of the Dropcountr deployment relative to traditional methods of conservation adopted by GMWSD such as turf replacement, fixture replacement, public education etc.

Grant funds will be used for:

- Deploying Dropcountr's HOME platform for all customers within GMWSD's service area
- Deploying Dropcountr's CLEAR platform for GMWSD's water utility staff
- Collecting demographic and appliance/fixture data for customers enrolling in the Dropcountr program to assist GMWSD with targeted and effective outreach on water conservation rebates and tips
- Developing personalized water use goals for each residential home in GMWSD
- Evaluating program performance and submitting to the CWCB a report that documents recommendations, obstacles encountered, lessons learned and steps forward for the Dropcountr program

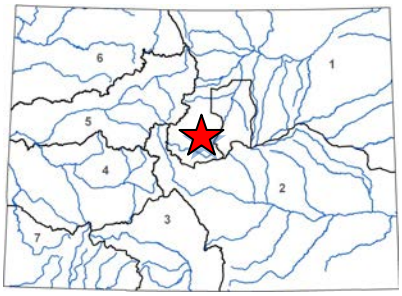
COLORADO
Colorado Water Conservation Board
Department of Natural Resources

Targeted, Integrated Irrigation Efficiency Improvements and Mgmt. and Turf Conversion for Reduced Water Use

The Meadows Neighborhood Company

March 2018 Board Meeting
Initial Consideration

Water Plan Grant Application



LOCATION
County/Counties: Douglas
Drainage Basin: Metro

DETAILS	
Total Project Cost:	$162,800
Water Plan Grant Request:	$66,700
Other CWCB Funding:	$
Other Funding Amount:	$19,250
Applicant Match:	$76,850
Project Type(s): Study, Construction	
Project Category(Categories): Conservation & Land Use	
Measurable Result: 7.13 afy ; 20,000-55,000 Coloradans impacted	

The Meadows Neighborhood Company (MNC) is a 4,000-acre, large-scale master planned community located 30 miles from both Denver and Colorado Springs. The community is zoned for 10,869 single-family and multi-family homes and has more than 1,100 acres of planned public land and open space dedicated to parks, trails and schools.

The intent of the project is to significantly reduce the annual water consumption of the MNC, one of the largest water users in the Town of Castle Rock. This efficiency and conservation project directly impacts the Town of Castle Rocks' domestic, potable water supply and targets five larger, high use water meters and targeted areas of high water use landscaping. The estimated demand reductions will be accomplished through an integration of essential irrigation and landscape methods: First, evaluating and documenting the system efficiency issues, implementing the necessary efficiency repairs and upgrading to higher efficiency products as needed; second, converting turfgrass to lower water use plant materials in targeted areas and finally optimizing the ongoing water use with improved system management and oversight.

The targeted high water use meters have a current annual usage of 7,100,000 gallons and an expected post-project use of 5,675,000 gallons (a 20% minimum savings goal), reducing water usage in the targeted areas by 1,425,000 gallons/year through irrigation efficiencies.

The current water use in the targeted turf conversion areas is estimated to be 1,125,000 gallons per year. Following the turf conversion,the water use in these areas would be reduced to approximately 225,000 gallons per year, reducing water usage in the targeted areas by 900,000 gallons per year. Through irrigation efficiency and the turf conversion, an estimated total savings of 2,325,000 gallons or 7.13 acre feet of water per year will be saved.

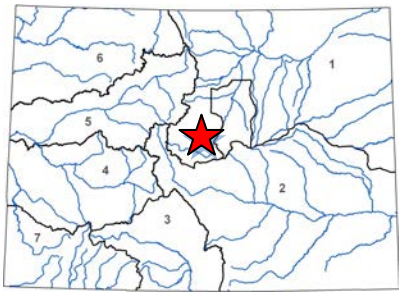
COLORADO
Colorado Water Conservation Board
Department of Natural Resources

Water and Energy Conservation Program

Mile High Youth Corps

March 2018 Board Meeting
Initial Consideration

Water Plan Grant Application



LOCATION
County/Counties: Denver
Drainage Basin: Metro

DETAILS	
Total Project Cost:	$124,169
Water Plan Grant Request:	$99,964
Other CWCB Funding:	$
Other Funding Amount:	$24,205
Applicant Match:	$
Project Type(s): Engagement,Other	
Project Category(Categories): Conservation & Land Use	
Measurable Result: 3.16 afy; $137,536.67/yr; 350 residences and 3000 Coloradans impacted	

Mile High Youth Corps' (MHYC) Water & Energy Conservation program engages young adults for a year of service providing water and energy efficiency measures to low-income households and non-profit facilities. These measures include the installation of Ultra-High Efficiency Toilets (UHETs), low-flow bathroom and kitchen sink aerators, low-flow showerheads, and LED light bulbs. Corpsmembers work on small crews while gaining the customer service skills and technical training necessary for careers in the "green" industry. Since 2008, Corpsmembers have retrofit 40,000 low-income homes and non-profit facilities, installing over 19,000 UHETs/HETs, saving 422,900 gallons of water annually and generating over 33,000,000 of lifetime kWh savings.

MHYC partners with Denver Water, Aurora Water, Denver Office of Strategic Partners, and Energy Outreach Colorado to provide water & energy efficiency services and education to its customers. Households targeted for MHYC services meet low-income guidelines as specified by the City of Denver, and youth recruited to perform conservation work are primarily from economically disadvantaged backgrounds.

Corpsmembers work with clients one on one to engage in conversation about behavioral changes and ways to be environmental stewards in the home (i.e. lower the water heater temperature, turn off the water while brushing teeth, washing clothes in cold water, etc.).

This grant will be used to expand and enhance MHYC services and outreach. Specifically, funds will pay for high efficiency fixtures, such as 1.5 GPM showerheads, 1.5 GPM sink aerators, 1.0 GPM bathroom aerators, a Ultra High Efficiency Toilet (.8 gallons/flush), when existing toilet is 1.6 GPF or greater, OR leaking, OR older than 1992.Additionally, the grant will provide for labor and marketing pieces to reach 3,000 residents and providing assessments of 350 homes, of which, 90% will qualify for a UHET installation.

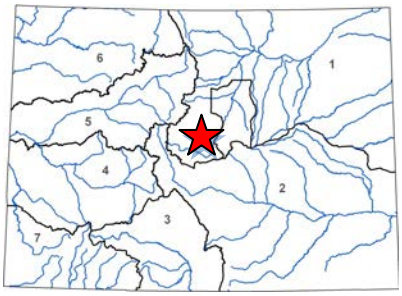
COLORADO
Colorado Water Conservation Board
Department of Natural Resources

Colorado Growing Water Smart

Sonoran Institute

March 2018 Board Meeting
Initial Consideration

Water Plan Grant Application



L O C A T I O N
County/Counties:
Drainage Basin: Statewide

D E T A I L S	
Total Project Cost:	$898,122
Water Plan Grant Request:	$398,000
Other CWCB Funding:	$
Other Funding Amount:	$450,000
Applicant Match:	$48,122
Project Type(s): Engagement,Other	
Project Category(Categories): Conservation & Land Use	
Measurable Result: Reaching 24 communities representing 1.2 million Colorado residents; 400 water providers, land use planners and elected officials	

Colorado Growing Water Smart (CGWS) builds the capacity of local jurisdictions to plan and implement long-term strategies for the integration of land use and water planning. In partnership with CWCB, CO Department of Local Affairs, Northwest Colorado Council of Governments, Western Resource Advocates, and Keystone Policy Center, the Sonoran Institute and Lincoln Institute of Land Policy provide training, technical assistance, and other resources to communities that allow them to better understand current and future water supply and demand, the range of land use planning tools to align growth and development with forecasted water supplies, and engage and educate their community to build support for needed plans and policies. Communities apply competitively to participate in CGWS' initial training program and subsequently for follow-up assistance to achieve their planning and policy goals identified at the workshop. Additional assistance will be provided through webinars, a network of technical experts and community leaders, and resources developed highlighting best practices and model programs in peer communities. These resources will be more broadly disseminated through presentations and workshops targeting planners, local jurisdictional leaders, and water providers. Participating communities in the first round, which reflected a mix of Front Range and West Slope communities, represented more than 6% (325,000+ residents) of Colorado's population.

By 2019, the project will achieve the following objectives:

1. 24 communities representing 1,200,000 Coloradans will have participated in CGWS and will be actively incorporating water-saving actions into land-use planning.
2. At least 12 of these communities will have formally adopted new or revised land-use plans or policies incorporating water-saving actions. Some of these plans or policies will serve as models for other communities to adopt.
3. At least six of these communities will have adopted and begun tracking specific land-use performance metrics to measure their progress in water conservation, efficiency, and reuse.
4. At least 400 elected officials, planners, water providers will be engaged through our training, assistance, education and, outreach activities
5. State officials will have a proposed set of performance metrics to measure Colorado's overall progress in meeting Colorado's Water Plan 2025 goal of "75 percent of Coloradans will live in communities that have incorporated water-saving actions into land-use planning."

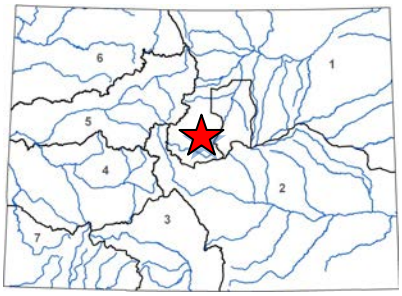
COLORADO
Colorado Water Conservation Board
Department of Natural Resources

Best Practices for Water Meter Retrofit Projects Financed by State Performance Contracts in Colorado

Western Resource Advocates

Water Plan Grant Application

March 2018 Board Meeting
Initial Consideration



L O C A T I O N
County/Counties:
Drainage Basin: Statewide

D E T A I L S	
Total Project Cost:	$152,875
Water Plan Grant Request:	$52,500
Other CWCB Funding:	$
Other Funding Amount:	$
Applicant Match:	$100,375
Project Type(s): Engagement, Other	
Project Category(Categories): Conservation & Land Use	
Measurable Result: ~40,000 af with 40% penetration over a 20-30 year time period	

The goal of this project is to develop Best Practices for the retrofit of water meters performed through the State of Colorado's Performance Contracting Program, in order to increase investor confidence and accelerate market penetration of smart water meters in Colorado.

Developing Best Practices for the retrofit of water meters performed through the State of Colorado's Performance Contracting Program will increase private sector investment in, and accelerate market penetration of, smart water meters in Colorado. This in turn will lead to reductions in water loss and development of new revenue streams for water providers. Performance contracts are a powerful tool that leverages private capital for energy and water efficiency improvements with little to no risk to their public sector clients. For Colorado's water supply future, every acre-foot of conserved water used to meet new demands is an acre-foot of water that does not need to come from existing uses.

Western Resource Advocates research (see *Tapping the Power of the Market*) has determined that water meter replacement projects conducted through performance contracts can reduce apparent water losses by up to 40,000 acre-feet of water per year, and provide new revenue streams of up to $34 million per year for water providers in Colorado. In addition, the data provided by new metering technology can significantly enhance the design and impact of water conservation programs, improve customer education, and allow for more effective drought monitoring and enforcement activities. 2017 legislation in Colorado now allows for performance contracts to be used for water meter replacement projects, and the state needs these Best Practices to optimize the benefits and reduce the risks of these projects. CWCB funding will be used to predominantly cover the cost of a top consultant highly experienced in producing Best Practices for performance contracting programs.

Objectives:

- Learn from other states and water providers about what has and has not worked in using performance contracts to replace water meters.
- Develop Best Practices that fulfill the needs of Colorado's State Performance Contracting Program and its new responsibilities under SB 17-252.
- Produce Best Practices that are adopted by Colorado Energy Office and have broad buy-in and support from the performance contracting sector.
- Identify and promote a pilot project to utilize the new Best Practices

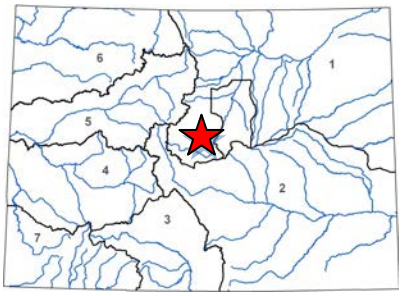
COLORADO
Colorado Water Conservation Board
Department of Natural Resources

Conservation-Oriented Tap Fees: Guide and Workshop

Western Resource Advocates

Water Plan Grant Application

March 2018 Board Meeting
Initial Consideration



LOCATION
County/Counties:
Drainage Basin: Statewide

DETAILS	
Total Project Cost:	$43,060
Water Plan Grant Request:	$19,090
Other CWCB Funding:	$
Other Funding Amount:	$2,500
Applicant Match:	$21,470
Project Type(s): Engagement, Other	
Project Category(Categories): Conservation & Land Use	
Measurable Result: 5-75 af per year per community if adopted. Aurora Water has seen 50 af/yr and Fountain has seen 20 af/yr; 100 residents per community per year	

The requested CWP Grant funds will support the development of a guide and one-day workshop on water-conservation oriented tap fee design methodologies. Both of these work products will serve as technical resources to help utilities better integrate water conservation objectives into their tap fees.

The objective of the guide is to provide calculation methodology options that integrate water conservation incentives into utilities' residential, commercial/industrial/institutional, and irrigation tap fees. For example, residential tap fees can be based on projected flow requirements of indoor fixtures, square footage of irrigated areas, and even plant type. The guide will also address related issues such as the administration of fees, data sources, and benefits and challenges of various approaches.

The objective of the workshop is to provide an in-person forum to discuss the conservation-oriented tap fee calculation methodologies outlined in the guide, and also to discuss important related issues such as designing fair and legally defensible fees, achieving cost recovery, achieving equity across and within customer classes, and transparency. The workshop will also be an opportunity for the guide authors to receive feedback on the draft guide before it is finalized. The final version of the guide will be freely available to all interested Coloradans.

This proposed project – which will result in a "Guide to Designing Conservation-Oriented Tap Fees" and a supporting one-day workshop - will provide a needed technical resource to help more utilities adopt conservation-oriented tap fees. Utilities' need for this resource was made resoundingly clear through the three Tap Fee Workshops that were conducted by WRA across Colorado, with the support of a CWCB Water Efficiency Grant Fund grant in 2016. Moreover, this proposed project is very well aligned with several goals outlined in Colorado's Water Plan, and is also among the identified low and no-regrets strategies.